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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/576,218
Filing Date: May 22, 2000
Appellant(s): JEONG, YONG-TAE

Robert E. Bushnell
For Appellant

REVISED EXAMINER'S ANSWER

This is in response to the substitute appeal brief filed November 7, 2005.

(1)   Real Party of Interest

Party of interest contained in the brief is correct.

(2)   Related Appeals and Interferences

The statement of Related Appeals and Interferences contained in the brief is correct.

(3)   Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4)   Status of Amendments

The statement of status of amendments in the brief is correct.

(5)   Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6)   Ground of Rejection to be reviewed on Appeal

The Ground of Rejection to be reviewed on Appeal contained in the brief is correct.
Claims 14-37 are rejected under 35 U.S.C. 102 (b). This rejection is set forth in a prior Office
Action, mailed on 7/1/04.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis
for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishii (JP 410116165A).

Regarding claim 14, Ishii discloses a method of reducing standby time **(a method for
finding a lower standby printers in a printing system, Abstract and fig. 1)** for printing in a
system of networked printers **(printers 20-22, fig. 1)** connected to at least one host computer
(i.e. printer server 30, fig. 1), the method comprising:

● the at least one host computer *(print server 30, fig. 1)* registering *(print server 30 registers
plurality of printers 20-22, fig. 1, page 3 of English translation)* at least one item of network
print information *(print server further includes a status information storing unit 306 for
storing printer's information acquired and retrieved from plurality of printers as shown in fig.
8)* in at least one host computer;

● the at least one host computer accessing *(print server further includes a database retrieval
unit 304 for acquiring and retrieving printer's information and such information is stored in
storage device 306, fig. 6, par. 17, page 3)* accessing information of the printers that connected
via **(a network 50, fig. 1, page 3)** the network printer information registered in the at least one
host computer in response to a command for printing print-data being issued *(a printing
command issued by plurality of clients 10-13, fig. 1)*;

• the at least one host computer transmitting *(print server further includes a transmitting device 302 for transmitting a request to retrieve printer's information from plurality of printers via network 50, fig. 6, and such requests are performed periodically, par. 28, page 4)* a request command from the at least one host computer to the networked printers requesting the networked printers to transmit standby print information to the at least one host computer *(status information of plurality of printers as shown in fig. 8 and also see abstract and page 6)*, the standby print information relating to the amount of standby print operations *(printer standby time, abstract; NOTES: standby print information/operations is equivalent to the printers having "no print operations and/or a printer in waiting status" as described in originally filed specification, and please see fig. 8 of Ishii for more details)* of the respective networked printers;

• the at least one host computer determining a minimum-utilized networked printer *(printer with "waiting status" and/or having the least print operation performed on the printers as shown in fig. 8)* having a lowest amount of standby print operations from among the networked printers having standby print operations from the standby print information *(printer with "waiting status", that is, printers with a lowest amount of standby print operations, page 6)* transmitted from the networked printers to the at least one host computer in response to the request command; and

• the at least one host computer transmitting *(print server transmits the print data to the printer having the lowest standby time (lowest print operations), page 6)* the print-data from the at least one host computer to the network printer determined to be the minimum-utilized network printer. *PLEASE NOTE: Print server 30 (fig. 1) of Ishii and host computer (fig. 1) of applicant's invention are both having the same features (i.e. storage device, controller, transmitter, detector, receiving) and both performing the same functions (i.e. selecting and determining which plurality of printers having the lowest standby print operations); herein, the examiner interprets "print server" as a "host computer" cited by an applicant. Please refer to "Response to Arguments" for more details.*

Regarding claim 15, Ishii further discloses the method of claim 14, wherein registering at least one item of network print information in at least one host computer comprises: determining

(database retrieval device 304 for acquiring and retrieving printer's information from plurality of printers that to the print server connected via network 50, and inherently, these printers must connected and registered with the print server in order for database retrieval 304 to successfully retrieved these information, i.e. an example is shown in fig. 8 includes IP address of registered printers) whether a command for registering network printer information in the at least one host computer has been issued; detecting *(print server further includes database retrieval device 304 for detecting, page 4)* the network printers connected to the network; and storing *(print server further includes status information storing unit 306 for storing printer's information retrieved by device 304)* the network printer information in a memory of the at least one host computer.

Regarding claim 16, Ishii further discloses the method of claim 15, further comprising assigning priority numbers to the network printer information in order of detection and storing the assigning priority numbers *(report as shown in fig. 8 shows priority number (left column) in which the printers have been detected and retrieved, and the printers with the least printed operation (i.e. printers 2-3) is selected for printing the next incoming print job because it is in the "waiting" state)* in the memory.

Regarding claim 17, Ishii further discloses the method of claim 16, wherein determining a minimum-utilized networked printer comprises: detecting *(database retrieval device 304 retrieves and assigns priority number as shown in left column, fig. 8)* the priority numbers assigned to the networked printers having the lowest amounts of standby print operations *(print server further includes a control mechanism 303 for assigning the print data to the printer with waiting status, that is, printer with no print operations and available (no errors) to print the next incoming print job, page 6, fig. 8, for example, an incoming print job will be assigned to printers 2-3 (waiting status) rather than printer 1 (busy status) to enhance and reduce the waiting time of incoming print job)*; and selecting *(selection of the lowest standby printer is automatically performed via a control mechanism 303 incorporated within the print server without the users/operators interface, and inherently, these operations can also be performed*

manually via a keyboard, control panel, and or etc) a networked printer having a preferential priority number as the minimum-utilized network printer.

Regarding claims 18-20, Ishii further discloses wherein the network printer information comprises an IP *(Internet Protocol, i.e. xxx.xxx.xxx.xxx, second column of fig. 8)* address of the registered networked printer (second column of fig. 8).

Regarding claims 22-29: Claims 22-29 recite limitations that are similar and in the same scope of invention as to those in claims 14-21 except computer readable memory for storing computer programs implanting the methods as described in claims 14-21. All computers/printers have some type of computer readable medium (i.e. print-data storing section 305, fig. 6, par. 36, page 6) for storing computer programs; hence claims 22-29 would be rejected using the same rationale as in claims 14-21.

Regarding claim 30, Ishii discloses a system *(printing system, fig. 1)* comprising:

• at least one host computer *(print server 30, fig. 1)*;

• a plurality of printers *(printers 20-21, fig. 1)*;

• a network *(network 50, fig. 1)* adapted to transfer data between the at least one host computer and the plurality of network printers;

• wherein the at least one host computer *(print server 30 includes a database retrieval 304 for acquiring printer's information from plurality of printers, fig. 6)* includes a controller, a memory *(status information storing unit 306, fig. 6)* operatively connected to the controller *(a cable connecting 303 and 306, fig. 6)*, and an interface adapted to transfer data between the controller and the network *(a cable connecting from print server 30 to network 50, fig. 6)*;

• wherein each of the plurality of network printer includes a controller *(inherently, all printers include a CPU)*, a memory *(print-data storing unit 202, fig. 4)* operatively connected to the controller, and an interface adapted to transfer data between the controller and the network *(a cable connecting printer 20-22 to network 50)*;

• wherein the controller *(database retrieval device 304 also registered plurality of printers connected to network 50, fig. 1)* of the at least one host computer is adapted to register at least

one item of network print information in the memory *(status information storing unit 306 for storing printer's information acquired by database retrieval 304, fig. 6)* of the at least one host computer;

• wherein the controller *(database retrieval device 304 for acquiring printer's information, fig. 6)* of the at least one host computer is adapted to access the network printer information registered in the memory of the at least one host computer in response to a command for printing print-data being issued *(a printing command is issued by client computers 10-13)*;

• wherein the controller of the at least one host computer is adapted to transmit a request command from the at least one host computer to the plurality of network printers via the interface of the at least one host computer and the network and the respective interfaces of the plurality of network printers requesting the networked printers to transmit standby print information to the at least one host computer *(database retrieval 304 acquires and retrieves printer's information from plurality of printers connected via network 50, and such information includes "busy state, waiting state, error state, and etc" as shown in fig. 5)* via the respective interfaces of the plurality of the network printers and the network and the interface of the at least one host computer, the controller of each respective one of the plurality of network printers being adapted to determine the standby print information relating to the amount of standby print operations of the respective networked printers *(i.e. standby print operations as shown in fig. 5 are retrieved and acquired by print server 30)*;

• wherein the controller of the at least one host computer is adapted to determine a minimum-utilized networked printer having a lowest amount of standby print operations *(printer with "waiting status", that is, printers with a lowest amount of standby print operations, page 6)* from among the networked printers having standby print operations from the standby print operation transmitted from the networked printers to the at least one host computer in response to the request command; and

• wherein the controller of the at least one host computer is adapted to transmit (transmitting the print data to the printer having the lowest standby time *(lowest print operations, page 6)* the print-data from the at least one host computer to the network printer determined to be the minimum-utilized network printer via the interface of the at least one host computer and to the

network and the interface of the network printer determined to be the minimum-utilized network printer.

Regarding claim 31, Ishii further discloses the system of claim 30, wherein registering at least one item of network print information in the memory of the at least one host computer comprises:

• controller of the at least one host computer determining whether a command for registering network printer information in the at least one host computer has been issued *(database retrieval device 304 periodically retrieves and acquires printer's information, page 4, par. 28)*;

• the controller *(database retrieval device 304 periodically retrieves and acquires printer's information, page 4, par. 28, and inherently, these printers are connected to the server, otherwise, database retrieval device 304 cannot retrieve printer's information)* of the at least one host computer detecting the network printers connected to the network; and

• the controller *(database retrieval device 304 retrieves printer information and stores such information in status information storing unit 306, fig. 6)* of the at least one host computer storing the network printer information in a memory of the at least one host computer.

Regarding claim 32, Ishii further discloses the system of claim 31, further comprising the controller of the at least one host computer being adapted to assign priority numbers *(database retrieval unit also assigns priority numbers to the retrieved reports as shown in fig. 8, col. 2)* to the network printer information in order of detection and storing the assigning priority numbers in the memory.

Regarding claim 33, Ishii further discloses the system of claim 32, wherein determining a minimum-utilized networked printer by the controller of the at least one host computer comprises:

• the controller of the at least one host computer detecting the priority number assigned to the networked printers having the lowest amount of standby print operations *(printer with waiting status will first be perform the incoming print data, par. 16, page 3)*; and

• the controller of the at least one host computer selecting a networked printer having a preferential priority number as the minimum-utilized network printer *(printer with waiting status will first be perform the incoming print data, par. 16, page 3).*

Regarding claim 34, Ishii further discloses the system of claim 30, wherein the network printer information comprises an IP *(Internet Protocol, second column of fig. 8)* address of the registered network printer.

Regarding claim 35, Ishii further discloses the system of claim 31, wherein the network printer information comprises an IP *(Internet Protocol, second column of fig. 8)* address of the registered network printer.

Regarding claim 36, Ishii further discloses the system of claim 32, wherein the network printer information comprises an IP *(Internet Protocol, second column of fig. 8)* address of the registered network printer.

Regarding claim 37, Ishii further discloses the system of claim 33, wherein the network printer information comprises an IP *(Internet Protocol, second column of fig. 8)* address of the registered network printer.

(7)   Response to Arguments

• Regarding claim 14, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest a method of reducing standby time for printing in a system of networked printers connected to at least one host computer, the method comprising: registering; accessing; transmitting; determining; and transmitting print-data from at least one host computer to the network printer determined to be the minimum-utilized printer, **and such methods are performed by the "host computer" rather than by the "print server" as suggested by Ishii.** In response, Ishii explicitly teaches a print server 30 as shown in fig. 1 for performing the methods as described above (please see claim 1 rejection rationale/basis for more details). Print

server 30 (fig. 1) of Ishii and host computer (fig. 1) of applicant's disclosure are both having the same features (i.e. storage device, controller, transmitter, detector, and receiver) and both performing the same functions (i.e. selecting and determining which plurality of printers having the lowest standby print operations); *herein, the examiner interprets "print server" as taught by Ishii as a "host computer" cited by an applicant, since both contains the same features and performs the same functions.* Ishii acknowledged conventional print system (i.e. plurality of printers connected to a client computer without a need of a print server, par. 3 and par. 8) is inefficient and time consuming for determining the most optimum printer that is best matched the print job preferences/attributes (i.e. find a printer with color capability and available). Ishii proposed a print server that connects plurality of client computers and plurality of printers in a networked environment such as LAN (Local Area Network). The client simply submits a print job with attributes/preferences to a print server 30, and then the print server 30 will search and determine which plurality of printers having the capabilities and available (no errors and in waiting status) for performing the incoming print job with selected attributes/preferences *automatically* (pars. 15-19). The system as proposed by Ishii improves printing speed and operability (pars. 46-48). According to the originally filed specification, the applicant disclosed "a host computer" for performing the methods as discussed above. Nowhere in the originally filed specification that the applicant stated a "host computer" cannot be served as a "print server". *In broadest interpretations, the term "host computer" can be interprets as client computer, server (i.e. print server, storage server, email server and etc), workstation, and personal computer. According to Microsoft Press Computer Dictionary, 2nd edition: The Comprehensive Standard for Business School, Library and Home, Second Edition, a host computer is defined as the main computer in a system of computers or terminals connected by communication links, page 201; a print server is a workstation that is dedicated to managing the printers on a network, the print server can be any station on the network, page 317; a workstation is a combination of input, output, and computing hardware that can be used for work by an individual. More often, however, the term refers to a powerful stand-alone computer of the sort used in computer-aided design and other applications requiring a high-end, usually expensive, machine ($10000 and up) with considerable calculating or graphics capability. Increasingly, workstation is also used to refer to a microcomputer or terminal*

connected to a network, page 418-419. Apparently, "print server" falls in a category of the definition of a "host computer" as defined by Microsoft Press Computer Dictionary.

• Regarding claim 15, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest a method for registering plurality of printers by the "host computer" rather than by the print server as taught by Ishii.

In response, Print server 30 (fig. 1) of Ishii and host computer (fig. 1) of applicant's disclosure are both having the same features (i.e. storage device, controller, transmitter, detector, and receiver) and both performing the same functions (i.e. selecting and determining which plurality of printers having the lowest standby print operations); *herein, the examiner interprets "print server" as taught by Ishii as a "host computer" cited by an applicant, since both contains the same features and performs the same functions. Please see response to argument (claim 14) for more details.*

• Regarding claim 16, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest a method for assigning priority number is performed by the "host computer" rather than the print server as taught by Ishii.

In response, print server 30 also includes a *database retrieval unit 304 for assigning priority numbers to the retrieved reports as shown in fig. 8, first column.* Print server 30 (fig. 1) of Ishii and host computer (fig. 1) of applicant's disclosure are both having the same features (i.e. storage device, controller, transmitter, detector, and receiver) and both performing the same functions (i.e. selecting and determining which plurality of printers having the lowest standby print operations); *herein, the examiner interprets "print server" as taught by Ishii as a "host computer" cited by an applicant, since both contains the same features and performs the same functions. Please see response to argument (claim 14) for more details.*

• Regarding claim 17, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest a method for detecting the priority number assigned to the networked printers having the lowest amount of standby print operatinon is performed by the "host computer" rather than the print server as taught by Ishii.

In response, print server further includes a control mechanism 303 for assigning the print data to the printer with waiting status, that is, printer with no print operations and available (no errors) to print the next incoming print job, page 6, fig. 8, for example, an incoming print job will be assigned to printers 2-3 (waiting status) rather than printer 1 (busy status) to enhance and reduce the waiting time of incoming print job); and selecting (selection of the lowest standby printer is automatically performed via a control mechanism 303 incorporated within the print server without the users/operators interface, and inherently, these operations can also be performed manually via a keyboard, control panel, and or etc). Print server 30 (fig. 1) of Ishii and host computer (fig. 1) of applicant's disclosure are both having the same features (i.e. storage device, controller, transmitter, detector, and receiver) and both performing the same functions (i.e. selecting and determining which plurality of printers having the lowest standby print operations); *herein, the examiner interprets "print server" as taught by Ishii as a "host computer" cited by an applicant, since both contains the same features and performs the same functions. Please see response to argument (claim 14) for more details.*

• Regarding claims 18-20, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest the network printer information comprises an IP (Internet Protocol) is performed by the "host computer" rather than the print server as taught by Ishii.

In response, print server 30 generates a status report that includes a printer IP address (*Internet Protocol, i.e. xxx.xxx.xxx.xxx, second column of fig. 8)*. Print server 30 (fig. 1) of Ishii and host computer (fig. 1) of applicant's disclosure are both having the same features (i.e. storage device, controller, transmitter, detector, and receiver) and both performing the same functions (i.e. selecting and determining which plurality of printers having the lowest standby print operations); *herein, the examiner interprets "print server" as taught by Ishii as a "host computer" cited by an applicant, since both contains the same features and performs the same functions. Please see response to argument (claim 14) for more details.*

• Regarding claims 22-29, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest a storage device for storing a computer program implementing the methods as cited in claims 14-21.

In response, claims 22-29 recite limitations that are similar and in the same scope of invention as to those in claims 14-21 except computer readable memory for storing computer programs implanting the methods as described in claims 14-21. All computers/printers have some type of computer readable medium (i.e. print-data storing section 305, fig. 6, par. 36, page 6) for storing computer programs; hence claims 22-29 would be rejected using the same rationale as in claims 14-21.

• Regarding claims 30-37, the applicant argued the cited prior art of record (JP 410116165) fails to teach and/or suggest a system cited in claims 30-37.

In response, please see rejection rationale/basis as discussed in claims 30-37 for more details.

(8)   Claims Appendix/Appeal

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9)   Evidence Appendix

The copy of the evidence contained in the Appendix to the brief is correct.

(10)   Related Proceedings Appendix

The statement of Related Proceedings Appendix contained in the brief is correct.
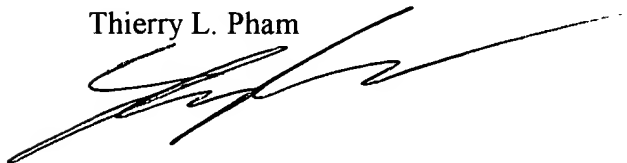
(11) Examiner's Answer; Conclusion

For the above reasons, it is believed that the rejections should be sustained.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

• US 6459496 to Okazawa, discloses a method for selecting the printers having the lowest amount of standby time (abstract and figs. 4-8) via network communication between a host computer and printer without having to use the print server.

Respectfully submitted,

Thierry L. Pham
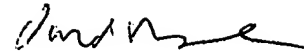
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